

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of [^{11}C]-radiolabelling a phenothiazine compound or a phenothiazine-like compound, wherein:

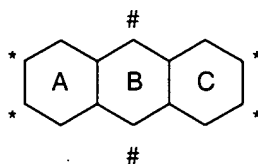
said compound has a polycyclic core of three six-membered rings fused together in a linear fashion and denoted the A-ring, B-ring, and C-ring, where the B-ring is the "middle" ring;

said polycyclic core is partially-aromatic or fully-aromatic;

said polycyclic core has 14 ring atoms, including exactly 1 or exactly 2 ring heteroatom(s), each of which is independently selected from N, O, and S;

the remainder of said ring atoms being C;

said exactly 1 or exactly 2 ring heteroatom(s) form part of the B-ring, but not part of the A-ring or C-ring, and so are located at one or both of the "central" positions denoted by a hash-mark (#) in the following depiction of the polycyclic core:



said compound has a pendant group covalently attached to a ring atom of said polycyclic core;

said pendant group is independently:

a primary amino group;

a cationic primary imino group;

a secondary amino group;

a cationic secondary imino group;

a primary imino group; or

a secondary imino group;

said method comprising the step of:

reacting said phenothiazine compound or a phenothiazine-like compound with [^{11}C]methyl trifluoromethanesulfonate ($\text{CF}_3\text{SO}_2\text{O}^{11}\text{CH}_3$);

thereby converting said pendant group to a corresponding [^{11}C]methyl-labelled pendant group, respectively:

a [^{11}C]methyl-labelled secondary amino group;

a [^{11}C]methyl-labelled cationic secondary imino group;

a [^{11}C]methyl-labelled tertiary amino group;

a [^{11}C]methyl-labelled cationic tertiary imino group;

a [^{11}C]methyl-labelled secondary imino group; or

a [^{11}C]methyl-labelled cationic tertiary imino group;

to give a [^{11}C]-radiolabelled phenothiazine or phenothiazine-like compound.

Claims 2-62 (Cancelled)